CORK CUVIERIAN SOCIETY.

Nov. 3, 1852.—Robert J. Lecky, Esq., President, in the Chair.

Dr. Haines exhibited two species of *Holothuriæ*, one of them new to the British fauna; it is the *Holothuria tubulosa*, and is fully the size of the large cucumber to which those animals have been appropriately compared: the upper surface or back of this animal is studded with tubercles, the outer ones being the largest; the whole under surface is thickly covered with ambulacriform tubes partially retractile; two lateral lines barely mark off two bands of them, leaving the central band much wider; the animal is of a dark brown colour, but nearly black on the upper surface; when contracted both extremities tilt upwards; the short thick tentacula count from fourteen to twenty, and can be retracted within the oral orifice; into that orifice open the œsophagus, seven or eight appendicula cæca, a clear vesicular sac, and the single duct from the numerous ovarian tubuli.

The intestinal tube, which is filled with sand, makes one large flexure in the abdomen before terminating in the cloaca, and is sustained in most of its course by a very delicate mesentery; from a considerable portion of the line of attachment of the mesentery hangs a beautiful open network of vessels resembling an omentum, but not possessing a continuous membrane between them; this network is described as consisting of veins and arteries; the upper portion of it, which has more free intermingling with the respiratory lobules, has fine vessels, but in the lower portion the vessels and lacework look coarser.

The anterior third of the animal is occupied by the red ovarian tubuli hanging loosely in the general cavity, full of ova in one specimen, but all discharged in another. The respiratory apparatus (renal of Hunter) corresponds with the description in other species; it commences by one tube near the termination of the intestine, and ramifies in two branches, one up among the viscera, the other along the wall of the sac. There is further, occupying the lower third of the animal, *a large mass of white tubuli*, their lower extremities hanging into the cloaca, and this mass is bound to the general wall by a single strong band and a few fibres close to the end of the respiratory tube. This mass of white tubes is not described in any British species by our authors; Cuvier probably had this species before him, for he mentions the white tubes, calling them 'vesiculæ seminales,' and describing the order as hermaphrodite;—Owen however says the order is not hermaphrodite, but in his 'Anatomy' there is no mention of these tubes, nor is there in the 'Hunterian Descriptive Catalogue's' account of the details of the *Holothuria tremula*. Possibly therefore this structure is peculiar to this or to some species, and it certainly seems to support the hermaphrodite character of at least this species. Now this species has the property of what is called cotton-spinning, and it is produced by the white tubes being at times protruded from the vent; and they are most singularly extensile—they may be drawn out to almost any length.

At the York meeting of the British Association, Mr. Peach exhibited in 1843 a *Holothuria* from Cornwall with the local name of Nigger or Cotton-spinner, but the species was not then identified; it was probably the same as the above specimens, but he says there were four rows of suckers, a condition which could not be established from any of those specimens of which Dr. Haines has now examined five; the ambulacra are so thickly placed beneath, that although there is some linear arrangement, it requires close observation to see two lines separating the lateral bands, while the central broader band has no line running through it to constitute four rows of suckers. Dr. Haines placed the several organs under the microscope; the ova were of a flattened oval form, approaching the pentangular, with a central clear cell. The white tubes did not seem to possess any discoverable contents; they were found to be closely corrugated transversely, and those corrugations could be drawn out to an *immense extent*, exhibiting only the finest possible membranous structure. The reticulated vessels hanging from the margin of the intestine presented a very curious appearance; they were of a pinkish colour, and on compression it seemed that a transparent pink tube had its *external* surface coated with innumerable transparent minute corpuscles, especially in the lower and coarser vessels: every examination showed that the clear vessel lay on the glass, the corpuscles under compression spreading out evenly on both sides of the vessel.

It may be stated that these creatures were examined after being a few days in Goadby's solution, having been forwarded by Mr. Blackburn from Valencia, county of Kerry. This gentleman had described the cotton-spinning appearance to Dr. Haines.

One of the specimens carefully dissected had a considerable number of the white tubes extruded, and it was in this individual that the ovaria were found empty;—is it not probable then that the male and female organs had been called into operation about the same time, supposing these white tubes to be vesiculæ seminales? The extremities of many of the white tubes were of a dark colour in their protruded state, but possibly this was in some manner due to the action of the solution. Blainville describes this animal as a Mediterranean species.

The peculiarity in this genus is the rudimentary and separate condition in which each of the organs is found, without any parenchyma or connecting cellular membrane, floating in one general cavity; the salivary ducts, the ovarian tubules, the vesiculæ seminales at the opposite extremity, the respiratory lobules, and the lacework or circulating vessels (may not these latter have some hepatic function?), all are here as if in their dissected state to show the parts of compound organs.

The other species exhibited by Dr. Haines was the *Thyone papillosa*; it has ten beautiful ramifying tentacula. One of the specimens presented the remarkable habit of the order, that of *eviscerating* itself; this is not done by turning the bowels *inside out*, but the tubes attached at the vent break off, and part of the *circle round the tentacula* separates *laterally*, when the whole contents with their trans-

parent containing membrane slip out, the margin of the oral orifice still remaining attached at one side to the skin; so that we have the whole animal, tentacula, teeth and all, minus the skin and muscular bands, protruded in their natural and relative position. In fact it is just as if the anatomist ran his knife round the neck and slipped off the skin, without any disturbance of the other parts. Sir J. Dalyell says he has observed the entire visceral apparatus renewed within three or four months.

MISCELLANEOUS.

On the Classification of Serpents. By M. C. Duméril.

In a memoir with this title, read before the Academy of Sciences, M. Duméril proposes an arrangement of the *Ophidia*, of which the following is a tabular view:—

Third Order of Reptiles.—Ophidia.

Char. Body elongate, slender, destitute of feet or lateral fins; mouth furnished with pointed, recurved teeth; branches of the lower jaw disunited, longer than the skull; head with a single rounded condyle, with neither a distinct neck, nor an external ear or auditory conduits; eyes without moveable eyelids; skin extensible, covered with a caducous epidermis.

Suborders.

I. Teeth in only one of the jaws, either the upper or lower 1. *Opoterodontes.*
II. Teeth in both jaws.
  A. Teeth all smooth, not furrowed ..... 2. *Aglyphodontes.*
  B. Some of the teeth furrowed.
    a. Posterior teeth longer and furrowed..... 3. *Opisthoglyphæ.*
    b. Anterior teeth furrowed, isolated, perforated 5. *Solenoglyphæ.*
    c. ————————, followed by smooth teeth .... 4. *Proteroglyphæ.*

The first of these suborders corresponds with that named *Scolecophides* by MM. Duméril and Bibron, in their work on Reptiles in the 'Suites à Buffon'; the second to the *Azémiophides* of the same authors; the third to their *Aphobérophides*; the fourth to their *Apistophides*; and the fifth to their *Thanatophides.*—*Comptes Rendus*, Nov. 2, 1852, p. 621.

On the Influence of Coal Gas upon Vegetation. By G. H. Ulex.

The introduction of lighting by gas upon the promenades of Hamburgh has exhibited the injurious influence of coal-gas upon vegetation in a very vexatious manner. The gas-pipes are placed, at a depth of three feet, in the middle of avenues 30 feet wide, planted principally with elms, but with a few lime-trees. Since its introduction, a great number of trees, previously healthy and vigorous, have quickly perished. The alburnum becomes rotten, the bark detached, and the tree dies in a few days, without any alteration taking place in the wood. Wherever this malady appeared, the roots were found to be decomposed, and the soil impregnated with the odour of coal-gas,